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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,337	12/23/2003	Takako Takasu	740756-2691	5581
22204	7590	03/28/2007		
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			EXAMINER YAMNITZKY, MARIE ROSE	
			ART UNIT	PAPER NUMBER
			1774	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.



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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
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10/743,337

12/23/2003

TAKASU et al.

EXAMINER

ART UNIT

PAPER

03202007

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

On February 27, 2007 and February 28, 2007, the Office made errors in mailing/transmitting Office actions. The PTOL-90A mailed February 27, 2007 for the present application indicated that the attached communication concerned Application No. 10/743,337, but the attached communication actually concerned 10/003,574. The action that should have been mailed for 10/743,337 was delivered electronically to another law firm with a PTOL-90A listing a different application number and dated February 28, 2007.

Attached is a copy of the Office action (final rejection) that should have been mailed, including Notice of References cited and Information Disclosure Statements.

The Shortened Statutory Period for Reply is RESET to expire 3 months from the mailing date of THIS communication.

If there is any question regarding this communication or prior communications for this application, please call Examiner Marie Yamnitzky at (571) 272-1531.

MARIE YAMNITZKY
PRIMARY EXAMINER

1714

03/20/2007

Office Action Summary

Application No.

10/743,337

Applicant(s)

TAKASU ET AL.

Examiner

Marie R. Yamnitzky

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08/28/2006, 11/27/2006 & 12/13/2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 08/28/2006 & 12/13/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. This Office action is in response to applicant's amendment filed November 27, 2006, which amends claims 1, 2, 4-6, 9 and 11.

Claims 1-14 and 17-20 are pending.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhuang et al. (US 6,602,395 B1) in view of *Grant & Hackh's Chemical Dictionary* 5th ed (1987), page 53.

See the entire patent to Zhuang et al. In particular, see column 1, line 8-c. 2, l. 43, c. 3, l. 35-65, c. 8, l. 33-c. 10, l. 22 and the Figures.

Zhuang et al. disclose light-emitting displays made by electrolytic polymerization. Zhuang et al. teach that copolymers comprising thiophene units and aromatic units may be used as the light-emitters, and that multi-colored displays may be made by using different polymers having different light-emitting characteristics. Zhuang et al. also teach that it was known in the art at the time of the invention that multi-colored displays could be provided by methods other than electrolytic polymerization.

Zhuang et al. do not disclose a specific example of a polymer meeting the limitations of the polymer required by present independent claims 1, 2, 4, 6, 9 and 11, and claims dependent therefrom, but the required polymer is within the scope of polymers provided by polymerization of monomers of the third formula shown in column 9.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize copolymers within the scope of Zhuang et al. to provide light-emitting displays such as described by Zhuang et al. It would have been within the level of ordinary skill of a worker in the art at the time of the invention to determine suitable polymers to make a multi-colored light-emitting display by Zhuang's electrolytic polymerization. Guided by Zhuang's teachings, it would have been a matter of routine experimentation to determine suitable monomers capable of being electrolytically polymerized to make a display according to Zhuang's method.

The third formula in column 9 of the Zhuang patent defines a relatively narrow group of possibilities for the heterocyclic rings, the narrow group encompassing the thiophene repeating units of formula (b-1) as defined in the present claims. The third formula in column 9 of the Zhuang patent is relatively broad with respect to the conjugated functionality that connects the two heterocyclic rings, but a benzene ring is a basic aromatic group. Further, Zhuang et al. teach that repeating units of present formula (a-1) can be electropolymerized to form a polymeric electroluminescent emitter (see the second formula in c. 9), and repeating units of present formula (b-1) can be electropolymerized to form a polymeric electroluminescent emitter (see the first formula in c. 9 wherein $X = S$). One of ordinary skill in the art at the time of the invention

would have reasonably expected that copolymers could be formed by electropolymerizing monomers of the first and second formulae in c. 9 of the Zhuang patent.

The present claims require the thiophene repeating units to have phenyl groups as substituents at present R₇ and R₈. The thiophene repeating units provided by Zhuang's monomer of the third formula in c. 9 (and first formula in c. 9) have alkyl or aryl substituents at the corresponding positions. It is the examiner's position that one of ordinary skill in the art at the time of the invention would have at once envisaged a phenyl group at these positions from Zhuang's teaching of aryl substituents since a phenyl group is a basic aryl group. For example, see the definition of "aryl" as set forth on page 53 in *Grant & Hackh's Chemical Dictionary*.

Based on the teachings of Zhuang et al., one of ordinary skill in the art at the time of the invention would have reasonably expected that polymers having two aryl substituents on the thiophene unit, such as two phenyl groups, would be electroluminescent polymers and could be used for Zhuang's purposes.

4. Claims 13, 14, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhuang et al. (US 6,602,395 B1) in view of *Grant & Hackh's Chemical Dictionary* 5th ed (1987), page 53, as applied to claims 1-12, 17 and 18 above, and further in view of Kamatani et al. (US 2003/0059646 A1).

Zhuang et al. provide pixellated light-emitting displays. The paragraph bridging columns 1 and 2 of the Zhuang patent indicates that there are conventional matrix-addressing schemes,

but Zhuang et al. do not specifically describe the additional features required by present claims 13, 14, 19 and 20.

Data signal lines, scan signal lines, and nonlinear elements such as thin film transistors, are not novel components of pixellated light-emitting displays. For example, see the Figures in the published application of Kamatani et al.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to provide pixellated light-emitting displays as taught by Zhuang et al., and to include components known in the art of pixellated light-emitting displays, such as the electrical components disclosed for the pixellated light-emitting displays described by Kamatani et al.

5. Applicant's arguments with respect to claims 1-14 and 17-20 have been considered but are moot in view of the new ground(s) of rejection.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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7. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 7:00 a.m. to 3:30 p.m. Monday-Friday.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
February 20, 2007



MARIE YAMNITZKY
PRIMARY EXAMINER

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